Content

English

Preface

This manual is designed to assist users in setting up and using the LCD Monitor. Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic or other means, in any form, without prior written permission of the manufacturer.

FCC Statement Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reposition or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced monitor technician for help.

Warning

Use only shielded signal cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for comliance could void your authority to operate the equipment.

This device complies with part 15 FCC Rules. Operation is subject to the following two conditions (1)This device may not cause harmfu interference. (2)This device must accept any interference received,including interference that may cause undesired operation.

Canadian DOC Notice

This Class B digital apparatus complies with Canadian ICES-003
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Important Safety Instructions

Please read the following instructions carefully. This manual should be retained for future use.

1. To clean LCD Monitor screen;
   -- Power off LCD Monitor and unplug the AC Cord.
   -- Spray a non-solvent cleaning solution onto a rag.
   -- Gently clean the screen with dampened rag.
2. Do not place the LCD Monitor near a window. Exposing the monitor to rain water, moisture or sunlight can severely damage it.
3. Do not apply pressure to the LCD screen. Excess pressure may cause permanent damage to the display.
4. Do not remove the cover or attempt to service this unit by yourself. Servicing of any nature should be performed by an authorized technician.
5. Store LCD Monitor in a room with a room temperature of -20° ~ 60°C (or -4° ~ 140°F). Storing the LCD Monitor outside this range could result in permanent damage.
6. If any of the following occurs, immediately unplug your monitor and call an authorized technician.
   * Monitor to PC signal cable is frayed or damaged.
   * Liquid spilled into LCD Monitor or the monitor has been exposed to rain.
   * LCD Monitor or the case is damaged.
7. Only use the supplied main lead to connect the monitor. For a nominal current up to 6A and a device weight above 3 kg, a line not lighter than H05VV-F, 3G, 0.75 mm^2 must be used.

English

Chapter 1

Installation

Unpacking

Before unpacking the LCD Monitor, prepare a suitable workspace for your Monitor and computer. You need a stable and clean surface near a wall power outlet. Make sure that LCD Monitor has enough space around it for sufficient airflow. Though the LCD Monitor uses very little power, some ventilation is needed to ensure that the Monitor does not become too hot.

After you unpack the LCD Monitor, make sure that the following items were included in the box:

☑ LCD Monitor
☑ User's Manual
☑ 1.8M Monitor-to-PC VGA Cable
☑ 1.8M Power Cord
☑ 1.8M Stereo Jack Audio Cable

If you find that any of these items is missing or appears damaged, contact your dealer immediately.

Viewing Angle Adjustment

The LCD Monitor is designed to allow users to have a comfortable viewing angle. The viewing angle can be adjusted from -5°to +15° (See fig. 1-1).

Figure 1-1

> *Warning*
> *This device complies with part 15 FCC Rules. Operation is subject to the following two conditions (1)This device may not cause harmfu interference. (2)This device must accept any interference received, including interference that may cause undesired operation.*

Chapter 1
Installation

Interface for Arm Applications

The rear of this LCD display has four integrated 4 mm, 0.7 pitches threaded nuts, as well as four 5 mm access holes in the plastic covering as illustrated in Figure 1-2. These specifications meet the VESA Flat Panel Monitor Physical Mounting Interface Standard

**Note : Please using M 4mm x 10mm (L) screw for this application**
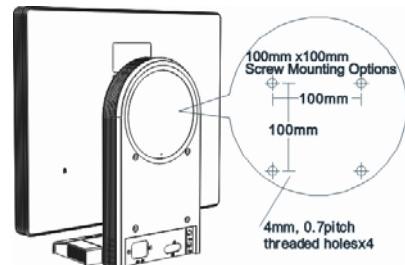
Connecting the Display

1. Power off your computer.
2. Connect one end of the signal cable to the LCD Monitor's VGA port.
3. Connect the other end of the signal cable to the VGA port
4. Make sure connections are secure.

Connecting the AC Power

1. Connect the power cord to the LCD Monitor.(See Fig. 1-4)
2. Connect the power cord to an AC power source.
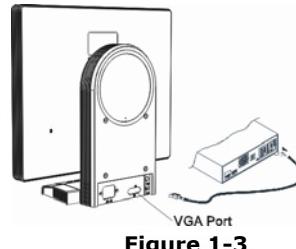
Figure 1-2
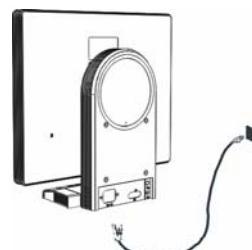
Figure 1-3

English

Figure 1-4

Chapter 1
Installation

Connecting the Audio Cable

1. Connect the audio cable to the " LINE OUT " jack on your PC's audio card or to the front panel's "AUDIO OUT" jack of your CD ROM drive. (See Fig. 1-5)

2. Connect the other end of the audio cable to the LCD Monitor's " LINE IN " jack.

Audio Jack
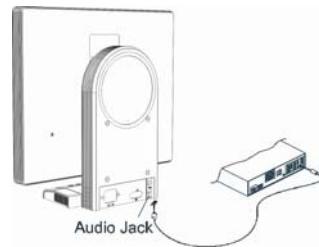
Figure 1-5

Setting Up the LCD Monitor

1. Make sure the AC power cord is connected to the LCD Monitor.
2. Turn on the LCD Monitor's power switch, located on the bezel of the monitor.

Power Management System

This LCD Monitor complies with the VESA DPMS (version 1.0) Power Management guidelines. The VESA DPMS provides four power saving modes through detecting a horizontal or vertical sync. signal.
When the LCD Monitor is in power saving mode, the monitor screen will be blank and the power LED indicator will light yellow.

Chapter 2
Display Control

User Controls
A brief description and the location of all LCD Monitor function controls and indicators:
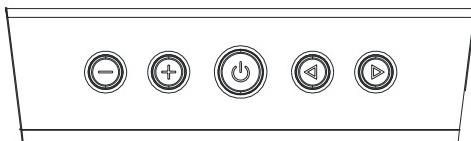

Figure 2-1

User Controls
A brief description and the location of all LCD Monitor function controls and indicators:

⏻	Power LED will be Green when monitor is on, be amber when in power saving mode, be dark when monitor in off mode. Power ON/OFF switch for push to ON and push to OFF(Toggle switch)
▷	Function Menu / Function select (clockwise)
◁	Auto Adjust Activity / Function select (counter-clockwise)
⊕	Audio Volume Function / Adjust increase
⊖	Audio Mute ON-OFF Selection / Adjust decrease

Adjusting the Monitor's Display

The monitor has four function control buttons to select among functions shown on OSD menu, designed for easy user-viewing environments.

OSD Function Menu
To access OSD Main menu, simply press one of the Function Select control buttons, and the menu diagram will pop up on the screen as shown on Fig. 2-2:
Continue pressing the Function Select buttons to scroll through the entire menu items ,then press Adjustment Control buttons to adjust content of selected item.

Attention
Firmware revision may have been updated into a latest version while the version number shown on all OSD menus in this manual will stay as Ver. 1.00.

Figure 2-2

Chapter 2
Display Control

Function Description

Icon	Function	Function Description
💡	Brightness	101 scales of brightness are available to choose from (0 to 100).
◐	Contrast	101 scales of contrast are available to choose from (0 to 100). (Digital Input Mode not support.)
⌨	H. Position	This function let's you adjust the display's horizontal position(Digital Input Mode not support.)
🖥	V. Position	This function let's you adjust the display's vertical position. (Digital Input Mode not support.)
▨	Sharpness	This function let's you select the images sharpness. Five selections are available. A smoother setting is more suitable for pictures, while a sharper setting is more suitable for text. (Digital Input Mode not support.)
◉	OSD Transparency	This function let's you set the transparency of the OSD menu. The transparency is adjustable from 0 to 3. 4 scales are available. (Digital Input Mode not support.)
∿	Phase	A total of 101 scales (0 to 100) are available to adjust the focus and clarity of the display. (Digital Input Mode not support.)
⟺	Clock	This function carries a frequency-tracking feature that offers users better stability and clarity. 101 scales (from -50 to +50) are available on the mode that is currently running. The adjustable range can be variable in different modes. This function records the deviated number of clock period between input timing and supported timing. The clock value may not be"0" after Auto Adjustment when the input timing is different from supported timing. (Digital Input Mode not support.)
🎨	Color Temperature	Push the (⊞) button to select a different color temperature. Please see the diagram below for function and description. (Digital Input Mode not support.)
⌨	OSD H. Position	This function moves the OSD menu window horizontally.
🖳	OSD V. Position	This function moves the OSD menu window vertically.
📑	Graph / Text	Because the H and V-Frequencies of both 640 x 400 70Hz, and 720 x 400 70Hz, are the same, this function let's you manually select either 640 x 400 (graphics mode), or 720 x 400 (text mode). (Digital Input Mode not support.)

Display Control

Icon	Function	Function Description
	Recall	The recall function will return all adjusted parameters to factory preset values.
	Language	Eight OSD language options are available: English, German, French, Spanish, Italian, Japan, Russian, and Chinese(Traditional), Chinese(simple). Press the left or right adjustment control button to select other language.
	Auto and Input Select	Press ⊙ button (▦) to activate the selected function, Auto Adjustment (not support in Digital Input Mode), Use Analog Input or Use Digital Input. The Auto Adjustment function let you adjust the display size, clock and phase to obtain the best viewing settings. This process will take 3 ~ 5 seconds to complete. **Attention :** After Auto Adjustment, the display might display wrong position or size, if it has received a pattern which has no screen border. You may select either Analog or Digital Input video when VGA input is available.
	Exit	Saves the values of this setting and exits the OSD menu function.

Icon	Function	Description
9300	CIE coordinated Color Temperature of 9300°K	Sets the CIE coordinate color temperature to 9300°K
7500	CIE coordinated Color Temperature of 7500°K	Sets the CIE coordinate color temperature to 7500°K
6500	CIE coordinated Color Temperature of 6500°K	Sets the CIE coordinate color temperature to 6500°K
User	Three colors (Red, Green, Blue) can be adjusted from the OSD menu	Sets the settings to a by user defined CIE Temperature.

English
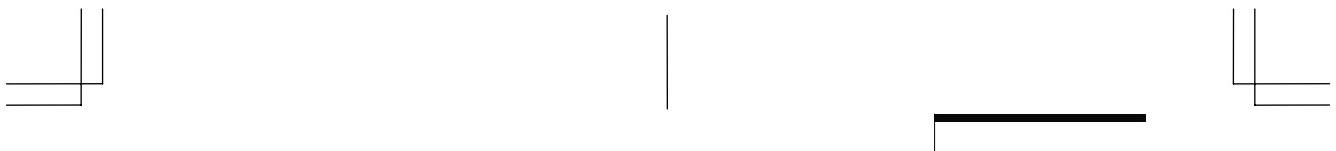
Chapter 3
Technical Information

Specifications

Size	19" (48 cm)
Display Type	Active matrix color TFT LCD
Resolution	1280 x 1024
Display Dot	1280 x (RGB) x 1024
Display Area (mm)	376.32 x 301.056 (H x V)
Display Color	16.2M (RGB 6bit + FRC)
Brightness (typical, minimum)	250 cd/m^2
Contrast Ratio (typical)	500:1
Response Time (typical)	Ta=25°C Tr+Tf=16ms
Lamp Voltage (typical)	700 Vrms
Lamp Current (typical)	7.0 mA rms.
Viewing Angle Vertical:	-55° ~ +55°
Horizontal:	-60° ~ +60°

Display Colors 16.7M with FRC or Dithering

Video

Input Signal	Analogue RGB 0.7Vp-p.
Input Impedance	75 Ohm ± 2%
Polarity	Positive, Negative
Amplitude	0 - 0.7 ± 0.05 Vp
Multi-mode Supported	Horizontal Frequency: 24 ~ 80 KHz

Control

Power switch → On/Off switch with LED indicator

OSD

Brightness	Digital
Contrast	Digital
Horizontal Position	Digital
Vertical Position	Digital
Phase	Digital
Clock	Digital
Display Mode Setup	Use EEPROM to save settings in memory
OSD Format	26 characters x 15 rows

Power Management

Mode	Power Consumption*	AC Input	LED Color
On	42W maximum	240 VAC	Green
Off	1W maximum	240 VAC	Yellow
Soft switch off	1W maximum	240 VAC	Dark
Disconnected	1W maximum	240 VAC	Yellow: Standby, Suspend, Off Dark: DC Power off

 * Meeting VESA DPMS requirements measured from AC Input end of AC power cord.

Sync Input	Signal	Separate TTL compatible horizontal and vertical synchronization
	Polarity	Positive and negative
Plug & Play		Supports VESA DDC2B functions
External Connection	Power Input (AC input)	AC socket
	Video Cable	1.8M with 15-pin D-sub connector
	Audio Cable	1.8M with Stereo Jack

Chapter 3

Technical Information

Environment	Operating Condition	Temperature Relative Humidity	5°C to 40°C/ 41°F to 104°F 20% to 80%
	Storage Condition	Temperature Relative Humidity	5°C to 40°C/ 41°F to 104°F 20% to 80% F
Power Supply (C Input)	Input Voltage	Single phase, 100 ~ 240VAC, 50 / 60 Hz	
	Input Current	1.2 A maximum	
Size and Weight	Dimensions	416.8 (W) x 391.7 (H) x 141.6 (D) mm	
	Net Weight	5.9 ± 0.3 kg	
	Gross Weight	7.9 ± 0.3 kg	

Pin Assignment

For Analogue D-sub connector
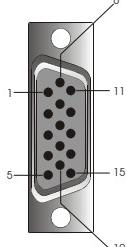
	Signal		Signal		Signal	
	PIN	Description	PIN	Description	PIN	Description
	1	Red	6	Red Rtn	11	NC
	2	Green	7	Green Rtn	12	SDA
	3	Blue	8	Blue Rtn	13	H. Sync.
	4	Digital GND	9	+5V	14	V. Sync.
	5	Digital GND	10	Hot Plug Detect	15	SCL

Standard Timing Table

If the selected timing is NOT included in table below, this LCD monitor will use the most suitable available timing.

TIMING	FH(KHZ) FV(HZ)	SYNC POLARITY	TOTAL (DOT / LINE)	ACTIVE (DOT / LINE)	SYNC WIDTH (DOT / LINE)	FRONT PORCH (DOT / LINE)	BACK PORCH DOT / LINE)	PIXEL FOREQ (MHZ)
640x350	31.469	+	800	640	96	16	48	25.175
VGA-350	70.087	–	449	350	2	37	60	
640x400	24.83	–	848	640	64	64	80	21.05
NEC PC9801	56.42	–	440	400	8	7	25	
640x400	31.469	–	800	640	96	16	48	25.175
VGA-GRAPH	70.087	+	449	400	2	12	35	
640x400	31.5	–	800	640	64	16	80	25.197
NEC PC9821	70.15	–	449	400	2	13	34	
640X480	31.469	-	800	640	96	16	48	25.175
VESA-PAL	50.030	-	629	480	2	62	85	
640x480	31.469	–	800	640	96	16	48	25.175
VGA-480	59.94	–	525	480	2	10	33	
640x480	35.00	–	864	640	64	64	96	30.24
APPLE MAC-480	66.67	–	525	480	3	3	39	
640x480	37.861	–	832	640	40	16	120	31.5
VESA-480-72 Hz	72.809	–	520	480	3	1	20	
640x480	37.5	–	840	640	64	16	120	31.5
VESA-480-75 Hz	75	–	500	480	3	1	16	
720x400	31.469	–	900	720	108	18	54	28.322
VGA-400-TEXT	70.087	+	449	400	2	12	35	
832x624 APPLE	49.725	–	1152	832	64	32	224	57.2832
MAC-800	74.55	–	667	624	3	1	39	
800x600	35.156	+	1024	800	72	24	128	36
SVGA	56.25	+	625	600	2	1	22	
800x600	37.879	+	1056	800	128	40	88	40
VESA-600-60 Hz	60.317	+	628	600	4	1	23	
800x600	48.077	+	1040	800	120	56	64	50
VESA-600-72 Hz	72.188	+	666	600	6	37	23	
800x600	46.875	+	1056	800	80	16	160	49.5
VESA-600-75 Hz	75	+	625	600	3	1	21	
1024x768	48.363	–	1344	1024	136	24	160	65
XGA	60.004	–	806	768	6	3	29	
1024x768	53.964	+	1328	1024	176	16	112	71.664
COMPAQ-XGA	66.132	+	816	768	4	8	36	
1024x768	56.476	–	1328	1024	136	24	144	75
VESA-768-70 Hz	70.069	–	806	768	6	3	29	
1024x768	60.023	+	1312	1024	96	16	176	78.75
VESA-768-75 Hz	75.029	+	800	768	3	1	28	
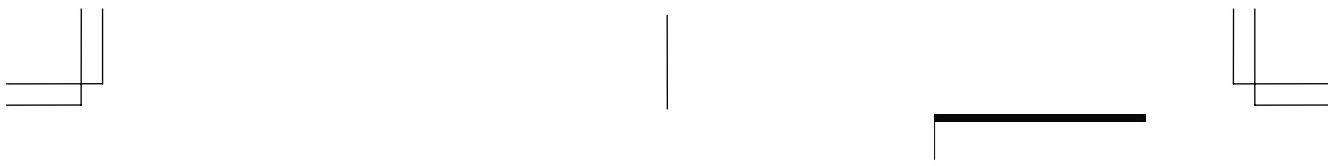
Chapter 3

Technical Information

Troubleshooting

This LCD Monitor has pre-adjusted using factory standard VGA timings. Due to the output timing differences among various VGA cards in the market, users may initially experience an unstable or unclear display whenever a new display mode or new VGA card is selected.

Attention

This LCD Monitor Supports Multiple VGA Modes.
Refer to the Standard Timing Table for a listing of modes supported by this LCD Monitor.

PROBLEM   Picture is unclear and unstable

The picture is unclear and unstable, please perform the following steps :

1. Enter PC to "Shut Down Windows" status while you're in MS-Windows environment, except Windows XP. In Windows XP open the specific application where the problems appear.
2. Check the screen to see if there's any black vertical stripes appear. If there are, take advantage of the "Clock" function in OSD menu and adjust (by increment or decrement numbers) until those bars disappear.
3. Move to "Phase" function in OSD menu again and adjust the monitor screen to its most clear display.
4. Click "No" on "Shut Down Windows" and back to the normal PC operating environment.

PROBLEM   There is no picture on LCD Monitor

If there's no picture on the LCD Monitor, please perform the following steps:

1. Make sure the power indicator on the LCD Monitor is ON, all connections are secured, and the system is running on the correct timing.   Refer to Chapter 3 for information on timing.
2. Turn off the LCD Monitor and then turn it back on again. If there is still no picture, press the Adjustment Control button several times.
3. If step 2 doesn't work, connect your PC system to another external CRT.   If your PC system Functions properly with a CRT Monitor but it does not function with the LCD Monitor, the output timing of the VGA card may be out of the LCD's synchronous range. Please change to an alternative mode listed in the Standard Timing Table or replace the VGA card, and then repeat steps 1 and 2.

PROBLEM   There is no picture on LCD Monitor

If you have chosen an output timing that is outside of the LCD Monitor's synchronous range (Horizontal: 24 ~ 80 KHz and Vertical: 49 ~ 75 Hz), the OSD will display a "***Out of Range***" message. Choose a mode that is supported by your LCD Monitor.

Also, if the signal cable is not connected to LCD monitor at all or properly, the monitor screen will display a message "***No Input Signal***".